

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) ~~An apparatus~~ system comprising:
a plurality of base stations, each base station comprising:
a positioning receiver to generate base station location information, each
positioning receiver having a known location; and
a link to a network to transmit said base station location information;
a station selection module to select a subset of the plurality of base
stations, ~~wherein said station selection module is to select said subset of base~~
~~stations~~ based at least in part on each base station of the subset ~~of base stations~~
utilizing a set of satellites that is also utilized by a mobile device ~~for which the~~
~~correction information is being computed~~; and
a correction information calculation module coupled to the network to
receive base station location information from each base station of the subset via
the network, the correction information calculation module to calculate
correction information as a function of the received base station location
information and the known location for ~~all of the plurality of each~~ base stations
of the subset, wherein the correction information calculation module includes:
an integrity monitoring module to monitor the received base station

location information and to prevent received base station location information that has been corrupted from being used by the correction information calculation module, and

a measurements integration module to stochastically integrate non-corrupted base station location information to derive said correction information.

3. Canceled.

4. (Currently amended) The ~~apparatus~~ system of claim 1 wherein said station selection module ~~is to select a first subset of base stations based on coarse location information and then to select~~ an updated second subset of the plurality of base stations, which may or may not differ from the ~~first~~ subset, based on a ~~more precise roving device location~~ of the mobile device computed using a correction information computed using the ~~first~~ subset.

5. Canceled.

6. (Currently amended) The ~~apparatus~~ system of claim ~~1~~ 5 wherein ~~said integrity monitoring module is to detect and exclude location information~~ the received base station location information that has been corrupted comprises base station location information that has been corrupted by cycle slip and code multipath errors.

7. Canceled.

8. (Currently amended) The ~~apparatus~~ system of claim 1 wherein each link comprises a first network interface to receive base station location information from a positioning receiver at a base station and to generate a first set of signals for transmission of said base station location information from said positioning receiver.

9. (Currently amended) The ~~apparatus~~ system of claim 8 wherein said first network interface packetizes said base station location data for network communication to said correction information calculation module.

10. (Currently amended) The ~~apparatus~~ system of claim 8 wherein said first network interface comprises a telephony communications interface, the apparatus further comprising:

a second link to receive said first set of signals via one or more signal lines from the base station and to extract said base station location data;

a second network interface to receive said base station location data from said second link and to generate a second set of signals for transmission of said base station location data to the correction information calculation module via the network.

11. (Currently amended) The ~~apparatus~~ system of claim 1 wherein said link comprises a modem to modulate base station location information from a positioning receiver into a modulated signal for transmission over a telecommunications link.

12. (Currently amended) The ~~apparatus~~ system of claim 11 further comprising:

a second link to receive said modulated signal from said telecommunications link and to extract said base station location information;

a network interface to receive said base station location information from said second link and to generate a second set of signals for transmission to the correction information calculation module via the network.

13. (Currently amended) The ~~apparatus~~ system of claim 1 further comprising:

a receiver module to communicate with a positioning system to determine preliminary position-related information; and

a precise location calculation module to calculate a receiver location from said correction information and said preliminary position-related information.

14. (Currently amended) The ~~apparatus~~ system of claim 13 wherein

said precise location calculation module and said receiver module are included in a roving receiver device, wherein said roving receiver device receives said correction information from said correction information calculation module via a message on the network that is converted to a wireless transmission from one of said plurality of base stations to said receiver module.

15. (Currently amended) The ~~apparatus~~ system of claim 13 wherein said precise location calculation module is located remotely from said receiver module, wherein said receiver module transmits said preliminary position-related information via a wireless message that is converted to a message that is transmitted on the network to said precise location calculation module.

16. (Currently amended) The ~~apparatus~~ system of claim 14 wherein said preliminary position-related information comprises a set of pseudoranges.

17. (Currently amended) The ~~apparatus~~ system of claim 14 wherein said correction information comprises one or more of LAAS-based pseudorange corrections and LAAS-based carrier-phase corrections.

18. (Currently amended) An ~~apparatus~~ system comprising:
a plurality of cellular communications base stations, each base station comprising:

a positioning receiver to generate base station location information, each positioning receiver having a known location;

a link to a network to transmit said base station location information;

a first module coupled to the network to receive base station location information from each of the plurality of base stations via the network, the first module to calculate correction information as a function of the received base station location information and the known location for all of the plurality of base stations;

a second module to select location information from a selected subset of said plurality of base stations and to omit location information from an omitted subset of said plurality of base stations from computation of said correction information, wherein the second module selects the subset of base stations based at least in part on each of the subset of base stations utilizing a set of satellites that is also utilized by a receiver for which ~~the~~ a set of correction information is being computed;

a third module to communicate with a positioning system to determine preliminary position-related information; and

a fourth module to calculate the receiver location from said correction information and said preliminary position-related information;

wherein the first module includes:

a fifth module to monitor the received base station location information
and to prevent received base station location information that has been corrupted
from being used by the first module, and

a sixth module to stochastically integrate non-corrupted base station
location information to derive said correction information.

19. (Currently amended) The apparatus system of claim 18 wherein the network is the Internet and wherein said first module and said second module are programs executed by a server connected to the Internet.

20. (Currently amended) The apparatus system of claim 19 ~~further comprising:~~

~~——a plurality of additional cellular base stations that do not provide location~~
~~information to said first module wherein the third module, the fourth module,~~
the fifth module, and the sixth module are programs executed by the server
connected to the Internet.

21. (Currently amended) An apparatus comprising:

a network interface to receive base station location information from a plurality of base stations from a network;

an integrity monitoring module ~~to detect and discard faulty location~~

~~information from one or more base stations to monitor the received base station~~
location information and to discard received base station location information
that has been corrupted;

a correction information calculation module to compute a correction
information for a mobile device as a function of non-discarded base station
location information received from the base stations, wherein the correction
information calculation module includes a measurements integration module to
stochastically integrate non-discarded base station location information to derive
said correction information; and

a station selection module to select a subset of the base stations based at
least in part on each base station of the subset ~~of base stations~~ utilizing a set of
satellites that is also utilized by the mobile device; and for which the correction
~~information is being computed~~

a localized data services module to provide localized information based
on a location computed using said correction information.

22. Canceled.

23. Canceled.

24. Canceled.

25. (Currently amended) The apparatus of claim 21 further comprising:

a data link to receive ~~rever~~ location information for the mobile device.

26. (Original) The apparatus of claim 25 wherein said data link comprises a link to an Internet service provider.

27. (Original.) The apparatus of claim 25 wherein said data link comprises a link to a cellular phone service provider.

28. (Currently amended) The apparatus of claim 21, wherein the
~~further comprising:~~ a localized data services module ~~to provide localized~~
~~information based on a location computed using said correction information~~
performs one or more services selected from the group consisting of personal
navigation, vehicle navigation, localized marketing applications, localized
services applications, fleet tracking, enhanced 911 services, telematics, localized
advertisements for goods, localized advertisements for services, localized
purchase incentives, and localized billing for phone services.

30. (Currently amended) The apparatus of claim 21 wherein said
received base station location information that has been corrupted comprises
received base station location information that has been integrity monitoring

~~module is to detect and exclude location information~~ corrupted by cycle slip and multipath errors.

31. Canceled.

32. (Currently amended) An article comprising a machine readable medium storing instructions that, if executed by a machine, cause the machine to perform a set of operations comprising:

storing a plurality of location information communications from a plurality of base stations received via a network;

monitoring the plurality of received location information communications and discarding any location information communications that have been corrupted;

selecting a subset of the non-discarded plurality of location information communications, wherein the subset is selected based at least in part on which of the plurality of base stations is utilizing a set of satellites that is also being utilized by a mobile device for which a correction information is being computed; ~~and~~

computing the correction information for the mobile device as a function of contents of the subset of said plurality of location information communications and known locations of said plurality of base stations; and

stochastically integrating the subset of said plurality of location information communications to derive said correction information.

33. (Original) The article of claim 32 wherein the set of operations further comprises:

selecting said subset based on a location of said mobile device.

34. (Original) The article of claim 33 wherein the set of operations further comprises:

computing a second subset based on a precise location determined by a precise location computation;

computing a precise location as a function of said correction information and coarse location information determined by said mobile device.

35. (Original) The article of claim 33 wherein the set of operations further comprises:

providing location specific data based on a location computed using said correction information.

36. Canceled.

37. Canceled.

38. Canceled.

39. Canceled.

40. Canceled.

41. Canceled.

42. Canceled.

43. Canceled.